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ABSTRACT

"Skills for Adolescence" is a drug prevention program designed specifically for young adolescents (ages 10 to 14) which features a course for grades 6-8 that can be offered in conjunction with classes in language arts, social studies, health, and related content areas, providing opportunities for students to use the skills of reading, writing, analyzing, and organizing ideas, thinking critically, and communicating with others as they relate to the course topics. This study compared 44 sixth grade students enrolled in this program with a control group of 40 students in a conventional curriculum to assess the positive effects of the "Skills for Adolescence" program on students' self-confidence, general social skills, self-esteem, locus of control, and decision making or problem solving abilities. The study employed nine instruments to test these qualities in both experimental and control groups, before and after the program. Results, based on analyses of covariance and other statistical methods, indicated that the "Skills for Adolescence" program accomplished three of its four evaluated goals: increasing self-confidence, increasing the coping skills of participants, and increasing the number of respondents who exhibited an internal locus of control. The decision-making intervention was the only goal that failed to produce a statistically significant difference. (TE)

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The Graduate School

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THE EFFICACY OF A PSYCHOSOCIALLY BASED DRUG PREVENTION PROGRAM FOR YOUNG ADOLESCENTS

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The Problem

Introduction

During the past twenty years, the American public has become increasingly aware of and concerned about the level of drug experimentation among youth. At the end of the 1960s, the use of illicit drugs among teenagers and young adults was recognized as a major epidemic (Pickens, 1985). Alarming numbers of America's youth had begun to experiment with illicit drugs. The problem of adolescent drug abuse and alcoholism was especially severe in urban and metropolitan areas. Lindenauer (1971) estimated that about 35,000 of New York City's student population were hard core drug users. In their study of five-year national trends in drug use among the nation's high school students, Johnston,O'Malley, and Bachman (1985) reported that overall illicit drug use was highest in the largest metropolitan regions (61% annual prevalence), slightly lower in the other metropolitan regions (55%), and lowest in the nonurban regions (48%). Further exacerbating the situation was the misuse and abuse of prescription drugs. Bell and Battjes (1986) stated that by the mid-1970s, the illicit drug experimentation seemed to have become

synonymous with other "rites of passage" into adulthood.

Although rates of drug use for most substances declined during the late 1970s and early 1980s, drug use among adolescents and young adults continues to be a significant problem. As reported in the 1985 National Institute on Drug Abuse High School Senior Survey 60% of the seniors in the class of 1985 had at least tried an illicit drug, while 25% had used marijuana at least once in the preceding 30 days.

The National Institute on Drug Abuse High School Senior Survey as well as the earlier works of Kandel (1978, 1979) and Jessor and Jessor (1977) provide an important data base for establishing existing rates and trends in adolescent drug use (Kovach & Glickman, 1986).

According to National Education Association Today (March, 1987) there are signs that student drug abuse levels may be heading back up:

-Among those same seniors in the high school class of 1985, 6.7% were current users of cocaine, compared with 5.8% in the previous class.

-In September 1986, 69% of youth in drug rehabilitation centers in eight states said they had used cocaine, up from 28% in a similar survey done the year before.

-The age of first use of drugs by American

> children has reached its lowest point ever--averaging 12.5 years for alcohol and 11.8 for marijuana (p. 4).

In a report to the National Federation of Parents for Drug-Free Youth, Brown (1982) stated:

> Alcoholism in adolescents develops rapidly, with some teenagers becoming alcoholics within six months of taking their first drink. The increasing incidence of teenage drinking and alcoholism is attributable to the fact that alcohol is easier to obtain than hard drugs and is more acceptable both socially and legally. (p. 46)

Brown's (1982) research further reveals that among children 12 to 17 years old, 19% are defined as having a serious drinking problem--which is defined as drinking at least once a week and consuming five to twelve drinks on a single occasion.

In 1982, the National Federation of Parents for Drug-Free Youth reported the following statistics:

-The average beginning age of alcohol use is 12.5. (3,300,000 teenagers are already alcoholics.)

-Thirty percent of high school seniors get drunk once a week.

-Six percent of high school seniors are daily

drinkers.

-More than half of teenage deaths are alcohol- or drug-related.

-Forty-nine percent of high school students drink in cars, 23 percent drive after drinking.

-Every five seconds a teen has a drug/alcohol related accident. Eight thousand teens and young adults are killed each year in drinking/driving accidents; 40,000 are injured.

In 1986, for the first time ever, the American public identified drug abuse as the most serious problem facing public schools.

The Relative Effectiveness of Drug Abuse Prevention

Public concern surrounding the issue of drug abuse among children and adolescents has prompted a concerted effort on the part of researchers and educators to identify effective ways of deterring or delaying the onset of drug abuse. Historically, traditional health education approaches have proven largely unsuccessful in reducing rates of drug abuse.

Earlier drug prevention programs originated from the theoretical assumption that children and adolescents used drugs because they were unaware of the consequences of drug use. During the 1960s, drug education programs

focused on providing information about drugs. Early efforts concentrated on providing factual information or using scare tactics, such as the stories of ex-addicts.

It is theorized (Bell & Battjes, 1986; Pickens, 1985) that these approaches--particularly the approaches of the 1960s and early 1970s did not work for at least four reasons:

1. It was the height of public mistrust of any administration policies.

2. Youth, themselves, reported that the message, itself, lacked credibility.

3. There existed a prevailing mistrust of informational drug programs.

4. Adolescents, in a process identified as "adolescent invulnerability", felt that they were not susceptible to the hazards presented by experimenting with drugs (Urberg & Robbins, 1983).

During these years, of informational drug programs, adolescents continued to experiment with drugs at an alarming rate. These two simultaneous trends caused researchers to consider whether informational drug programs might not, themselves, be an important cause of drug misuse (Pickens, 1985).

The idea that drug education may have produced the wrong results has been supported by anecdotal evidence

(Stickgold & Brovar, 1978). Further, research on the characteristics of drug users indicated that drug users possess more knowledge about drugs than non-drug users (Pickens, 1985). Consequently, the effects of drug information are at best--unpredictable.

By the middle of the 1970s health educators had begun to examine interpersonal and intrapersonal factors that influenced drug behaviors among children and adolescents (Goodstadt, 1975). Moreover, "correlational studies found drug abuse was associated with attitudes, beliefs, and values, as well as other personality factors, such as feelings of self-esteem, self-reliance and alienation" (Bell & Battjes, 1986, p. 3). Studies of this nature, plus evidence of continuing drug program ineffectiveness, led social scientists to search for more effective approaches, approaches that emphasized the personal and interpersonal aspects of drug abuse.

Clearly, new programs were needed to address these problems. Vincent (1987) has identified six components of effective drug abuse prevention programs for young adolescents:

1. to value and maintain sound personal health
2. to resist pressures to use drugs through refusal skills
3. to develop the requisite skills for coping

with stress

4. to become engaged in activities that offer healthy avenues for their interests and that increase their positive self-concept and self-esteem
5. to differentiate between medication and substance and usage
6. to be responsible for peer behavior as well as one's own behavior (p. 5)

Potentially effective approaches to substance abuse prevention have been suggested by recent ongoing research in the area of smoking prevention. These approaches have relied on prevention strategies that focused on psychosocial factors believed to be involved in substance abuse (Botvin & Eng, 1980; Evans, et al., 1981; Hurd et al., 1980). Increasingly, researchers have found encouraging results based on the psychosocial model of behavior.

Analyzing the basic tenets of earlier substance abuse education programs as well as the current psychosocial prevention strategies has provided a conceptual framework for substance abuse programs. Given the multitude of variables associated with substance use, "it seems evident that substance use/abuse is not simply a problem rooted in an absence of knowledge about the health, social, and

legal risks--although this certainly may be a contributing factor for some individuals" (Botvin, 1983, p. 120).

In conclusion, substance use/abuse is not the result of one variable, but is the complex interaction of many variables.

The implication, then, is that substance use/abuse might be prevented by intervening on the personal level. Emphasis would be on increasing students' ability to deal with interpersonal pressure and on teaching adolescents specific strategies to withstand these pressures. Additionally, Botvin (1983) suggests that increasing young adolescents' self-esteem, self-confidence, sense of personal control, and ability to cope with anxiety might reduce their susceptibility to intrapersonal influences.

Overall, the principles of an integrated approach that focuses on addressing the broad spectrum of variables influencing substance use in adolescents is within the conceptual framework of an effective drug education program. Research has shown that adolescents who experience delay in learning social skills or who remain skill deficient are prone to the development of such drug-use-related problems as delinquency, truancy, aggression, and academic and social withdrawal (Goldstein, Sprafkin, Gershaw, & Klein 1979).

Realizing that the existing research supports a

broad, comprehensive approach to substance use--one that emphasizes intervention strategies that focus on interpersonal as well as intrapersonal skills--a program, "Skills for Adolescence", that appeared to meet these criteria was selected for implementation and evaluation by the researcher. The "Skills for Adolescence" manual states that it is a drug prevention program designed specifically for young adolescents. It is based on the premise that the time to address these problems is before they start. The program targets the early adolescent years (ages ten to fourteen) as this is a particularly vulnerable stage of development (Erikson, 1959). The program's core is a course for grades 6-8 that can be offered in conjunction with classes in language arts, social studies, health, and related content areas. Incorporating the program into other curriculum areas provides opportunities for the students to use the skills of reading, writing, analyzing and organizing ideas, thinking critically, and communicating with others as they relate to the course topics. Additionally, by integrating the lessons into the existing curriculum students may not perceive drug education as an isolated phenomenon unrelated to them.

It was hypothesized that students having participated in the "Skills for Adolescence" program would respond more favorably, than students who participated in the

conventional science/health curriculum, in the following areas: (a) self-confidence, (b) general social skills (listening, coping, communicating), (c) self-esteem, (d) locus of control, and (e) decision making/problem solving.

Goodstadt (1987) reported that drug education programs have frequently been poorly implemented by school districts. One reason identified by Goodstadt (1987) is that implementation requires a serious commitment to careful evaluation. Further, the overwhelming majority of drug education programs have not been evaluated in any fashion. Those studies that have been evaluated lack precise methodologies necessary for valid conclusions (Goodstadt, 1987). The purpose of this study was to design a methodologically-sound evaluation of the efficacy of the "Skills for Adolescence" program.

Method

Subjects

Four sixth grade classes from the Dover, Delaware area were randomly assigned to either the control or experimental group. Of the 49 students in the experimental group, 44 completed all 21 sessions and the posttest, while 40 of the 45 students assigned to the control group completed the posttest.

Curricula

The experimental group received the "Skills for Adolescence" program; the control group did not receive the "Skills for Adolescence" program. Both groups were exposed to identical curriculum with the exception of the "Skills for Adolescence" program.

Control Group

The control group received the school district's science curriculum (Harcourt Brace Jovanovich) and lessons prepared by the Department of Public Instruction of Delaware. The DPI program entitled, "What Makes Me Tick?", is a comprehensive program of health and safety education for grades K-12. The program was prepared as a support system for teachers to use in the teaching of health and safety. There are ten categories in the health education program. They are: self-image, coping and decision-making skills, body parts and systems, their locations and functions, care of the body, personal and family life, nutrition, substance use and abuse, consumer health, and safety. In each category, the program offers one to three lessons on the particular topic. The 25 lessons were designed to be incorporated into the district's existing health and safety curriculum throughout the year. Of these

25 lessons, only six specifically pertain to substance use and abuse: one lesson on self-image, two lessons on coping skills, and three lessons on substance use and abuse.

Experimental Group

The program, "Skills for Adolescence", was taught to the experimental group. Skill lessons were selected from units one, two, three, four, and six which corresponded to specific intervention components. Each unit contained a variety of classroom activities that included reading, writing, discussions, role playing, sharing the results of homework assignments, and large-group and small-group projects.

The following format was used for each lesson: activity introduction (5 to 10 minutes), activity procedure (25 to 30 minutes), processing of questions (5 minutes), presentation of homework assignment (2 minutes), and journal entry (3 minutes). The processing questions presented at the end of each lesson helped the students to clarify and think critically about the day's lesson. Homework assignments were given to encourage students to extend their skills beyond the classroom. Each student kept a journal that was used for reflective thinking. For each unit, specific articles from the student text were assigned for independent reading and class discussion.

These articles reinforced the main concepts of the units.

The sessions were scheduled for 50 minutes in length, three times a week. A schedule was developed which allowed two of the 50 minute sessions each week to be scheduled during either the reading, language, social studies, or science classes. Additionally, the third session each week was scheduled from the physical education, music, art, or handwriting classes. All sessions were taught by the researcher. At various times the director of elementary education, the building principal, and the two classroom teachers of the experimental group monitored the sessions. Throughout the eight weeks, periodic meetings were held with the two teachers and the principal. At these meetings, input as to the planning and implementation of the lessons was provided to the researcher.

The program consisted of 21 teaching sessions. Additionally, two sessions were scheduled to administer the pretest and the posttest to the experimental group. The control group was pretested at about the same time as the experimental group.

Instruments

Nine instruments were selected for evaluating the "Skills for Adolescence" program. These measures were matched to specific program goals. Seven of the measures

were from An Evaluation Handbook for Health Education Programs in Alcohol and Substance Abuse developed by the Centers for Disease Control, Atlanta, Georgia. Each of the statements or items from the evaluation handbook were between 15 to 20 words in length. The words used in the inventories did not exceed the fourth grade level. The Coopersmith Self-Esteem Inventory (School Form) and the Nowicki-Strickland Locus of Control Scale for Children were also included.

An emphasis was placed on selecting only those measures that were deemed likely to assist the researcher to analyze the efficacy of the program. For evaluation purposes, four intervention components were targeted : (a) self-confidence, (b) general social skills (listening, coping, communicating), (c) self-esteem, and (d) decision-making/problem solving skills. The hypothetical construct, locus of control, was also assessed.

Multiple outcome measures were selected in an effort to enhance the quality of the program analysis. The evaluation centered on the systematic collection of data necessary for determining the efficacy of the drug prevention program.

Procedures

Prior to administering the pretests to the experimental and control groups a meeting was held with

the researcher, the school principal, and the four sixth grade teachers involved in the project. At this meeting a packet was distributed which included the following: (a) fact sheet that explained several other programs offered by the Quest National Center, and (b) "Skills for Adolescence-An Overview" a pamphlet that presented a rationale of the program, skills the program taught, and suggestions for effectively implementing the program.

The importance of teacher and principal support for the program was stressed as being a crucial ingredient in assuring the program's success.

The principal and the two teachers of the experimental group received a copy of the unit goals and session objectives for the program. Additionally, all three received copies of the lesson plans for the 21 sessions.

Based upon observations from a pilot test the following procedures were used:

-The pretest inventories were administered in one session (approximately 60 minutes). A time limit of five to ten minutes was set for each assessment.

-To control for reading difficulties, the directions for each of the nine measures were read to each class by the examiner.

-The students were instructed to request additional help if they were having any difficulty in reading the inventories.

-After the examiner finished reading the directions, students were permitted to work alone. (The examiner circulated around the room assisting with the directions or helping with the words, when necessary.)

-At the completion of the session, students who had not completed the assessments were given time to complete the inventory.

-Packets were collected at the end of the session.

As described earlier, following completion of pretest assessments, the experimental and control curricula were implemented. Upon completion of the curricula, posttest assessments were conducted using identical instruments and procedures as in the pretest.

Results

The Statistical Package for the Social Sciences (SPSSx) was used to analyze the collected data. Two-tailed *t* tests were used to compare the treatment and control groups on the pretest in terms of scores for use of drugs, self-confidence, coping skills, self-esteem, locus of

control, and decision-making/problem solving scores.

No statistically significant differences were found between the experimental group and the control group on any pretest or demographic variables.

Further analyses of the data were accomplished by means of analysis of covariance (ANCOVA) with pretest scores used as covariates for the analysis of posttest data. Separate analyses were conducted for: the use of drugs assessment, the two self-confidence assessments, the coping assessment, the four subsections of the self-esteem assessment (general self-esteem, social self-esteem, home self-esteem, school self-esteem) and the total self score, the locus of control measure, and the three decision-making measures.

A series of ANCOVAs were performed on the posttest data. Statistically significant differences were found between the treatment group and the control group for hypothesis one, self-confidence; hypothesis two, coping skills; hypothesis three, self-esteem; and hypothesis four, locus of control.

A self-report inventory of current levels of drug use ("Do You Use These?") was included in the study. Although there was no statistical difference between the two groups, this inventory provided statistical data that afforded a comparison of the substance use for the

experimental and control groups with national trends of substance use among young adolescents as reported in National Trends in Drug Use and Related Factors Among American High School Students and Young Adults, 1975-1986.

Assessment three ("Do They Matter?") consisted of a Likert scale in which subjects were asked to register their degree of agreement concerning the perceived effects of using alcohol or drugs on their lives. Although not statistically significant, the experimental group did indicate a slightly stronger belief that there were negative consequences associated with using drugs or large amounts of alcohol. The mean score for the experimental group was 1.64 while the mean score for the control group was 1.63.

The outcome measure used to assess the general social skill-coping was assessment four ("Different Choices"). In this inventory, respondents were presented with situations involving pressures that commonly promote the use or abuse of alcohol and drugs. Children were asked to indicate which of several options they would be willing to try in order to cope with these situations.

Results of the ANCOVA used to examine the differences between treatment and control groups on "Different Choice" indicate that the subjects in the experimental group expressed a willingness to try a significantly greater

number of options that did not involve drugs or alcohol than did their counterparts in the control group. Again, these differences were statistically significant and indicated positive effects of the treatment. (See Table 1.)

Moreover, results of the analysis were consistent with research that suggests that adolescents may seek out peers who smoke, drink, or use drugs or they may indulge in these behaviors themselves as a way of coping with expected failure. The evidence is conclusive that peer support and encouragement is responsible for a substantial percent of initial adolescent drug use (Eisterhold, et al., 1979; Kandel, 1979). The use of alcohol, tobacco, and other drugs may also help the adolescent cope with tension or anxiety, especially social tension. Failure to cope with social situations may lead to drug use and other deviant behaviors for it is the lonely adolescent who is more likely to report feeling anxious, depressed, socially ill-at-ease, unhappy, and dissatisfied with life (Cheluve, Sultan, & Williams, 1980; Moore & Schultz, 1983). Thus, learning how to initiate, develop and maintain meaningful relationships, i.e., to cope, may be viewed as a necessary survival skill for adolescents.

One major assumption made by the drug prevention program was that it is important to teach students strategies to cope with their behavior and to help them

understand the importance of recognizing how their emotions affect their behavior. Research done with adolescents concluded that adolescents progress toward emotional maturity is in large measure a process of gaining self-control (Larson, Csikszenthmhaly, & Graef, 1980). When adolescents are suffering anxiety, they may perceive any actions by others as threatening to their self-survival. The result may be a variety of behaviors that are impulsive and self-defeating (Averill, 1983). Longitudinal studies of drug use in normal populations completed by Kandel (1978) has suggested that poor coping in several life relationships (e.g., parental interaction, school performance, coping with negative emotions) may be an underlying factor for many different types of substance use.

Results of the ANCOVA analysis revealed a significant difference between scores of the experimental group and scores of the control group on assessment five ("What Would You Do"?) and on the Nowicki-Strickland Locus of Control Scale for Children. Separate analyses were conducted for assessment five and the locus of control inventory. The results indicate that the experimental group expressed a significantly higher level of certainty regarding their intention to refrain from using alcoholic beverages and/or drugs. Actual figures for the locus of

control measure are reported later in this section. Both the mean scores for assessment five (Table 1) and the mean scores for the locus of control inventory were statistically significant.

Table 1

Treatment Versus Control ANCOVA Results-Assessment Four-"Different Choices", Assessment Five-"What Would You Do?", and Self-Esteem Scales

Variable	Experimental M	Control M	F	p value
Assessment 4	35.93	24.15	36.39	.001
Assessment 5	1.99	1.81	121.68	.001
Self-Esteem Scales				
General	19.59	16.70	7.97	.006
Social	6.64	5.65	13.78	.001
Home	5.93	5.20	2.66	.107
School	5.43	3.88	17.48	.001
Total	75.18	63.10	14.17	.001

These findings were consistent with and corroborate the findings of Bandura (1969) and Rotter (1972) who found that the degree of susceptibility to outside influences

appears to be determined by the adolescent's personality with individuals who have low self-confidence and low autonomy being more likely to be influenced by external pressures. Research also suggests that social pressures may produce drug use among those individuals with a high need for social approval (Scherer, Ettinger, & Mudrich, 1972). It is possible that when adolescents are insecure or ambivalent about interpersonal peer relationships, the tendency to withdraw from social contacts may occur because of their perception that drug use is a way to achieve peer group inclusion. Scherer and others (1972) state that chronic drug users have an abnormal desire to be perceived favorably by their peers. To a large degree, self-confidence is the result of feeling competent, significant, and autonomous.

The Coopersmith Self-Esteem Inventory was used to measure the intervention component-self-esteem. Statistically significant differences were found on the three subscales: general self-esteem, social self-esteem, and school self-esteem. Statistically significant differences between the experimental and control groups were also found for the total score on the Coopersmith Self-Esteem Inventory (Coopersmith, 1981). A significant difference was not found for one subscale, home-parents. Table 1 lists the results.

These findings support the findings of Kaplan (1975) who stated that in adolescents, low self-esteem has been related to substance use. Kaplan's research also supported the hypothesis that negative self-feelings are predictive of deviant behavior including drug use. Lewis and Lewis (1983) have identified self-concept and self-esteem as the most important determinants of children's health behaviors. Thus, current research supports the associations between substance use and such variables as low self-esteem, low self-efficacy, depression, and high anxiety (Botvin & Wills, 1986).

The hypothetical construct, locus of control was included in the research evaluation of the drug prevention program. There is a logical connection between locus of control and several of the intervention components, specifically, the decision-making process and the self-confidence intervention component. Therefore, the locus of control construct was perceived to be a useful evaluative tool in measuring the efficacy of the treatment. As shown in Table 2, results of the ANCOVA analysis revealed a significant difference between scores of the treatment group and scores of the control group on the locus of control inventory. This indicates that the experimental group was, on average, more internal than the control group.

The research of Jessor, Chase, and Donovan (1980) indicated that frequent drug use has been associated with lower personal controls concerning problem behavior. If external locus of control adolescents comprise a distinct subgroup that is more likely to begin smoking than peers with an internal locus of control, then drug (smoking) prevention programs should target this group (Clarke, MacPherson, & Holmes 1982).

The "Skills for Adolescence" program seemed to enhance internal locus of control for the experimental students. Although locus of control was not directly related to the stated program goals, this construct may have been modified through the intervention strategies targeted at the other components.

Decision-making was the final intervention component to be assessed. Assessment two ("Making Decisions"), assessment six ("Ideas About Decisions"), and assessment seven ("Would You Make Careful Decisions?") were used to measure this component. Significant differences were not found for these outcome measures.

Other Analyses

"Do You Use These?", assessment one, was a general self-report inventory of current levels of drug use. This measure was not directly related to any of the program's

intervention components. However, since the ultimate goal of the prevention program was to prevent drug use, assessment one seemed appropriate for inclusion in the study. It was thought that this measure would indicate how effectively a drug prevention program had aided participants in abstaining from drugs. It was also of value in obtaining information on the frequency of consumption of specific substances. (See Table 2.)

Table 2

Treatment Versus Control Group ANCOVA Results-Locus of Control Inventory and Drug Use Inventory

Variable	Experimental M	Control M	F	p value
Locus of Control	16.86	13.10	25.21	.001
Use of-Beer	.42	.29	.027	.870
Use of-Wine	.35	.13	1.926	.169
Use of-Liquor	.18	.10	1.416	.237

All subjects in both the experimental group and the control group indicated that they had not used the following drugs: marijuana, hashish, LSD, PCP, amphetamines, barbiturates, glue, cocaine, and heroin.

Therefore, statistical analysis was not appropriate or necessary.

Discussion

The purpose of this study was to test the relative effectiveness of a comprehensive drug prevention program that focused primary attention on the social and psychological variables believed to be involved in the onset of substance use.

Current research provides evidence that programs that focus on social skills in a multi-component prevention program show promise for reducing alcohol and drug use (Botvin & Wills, 1986; Evans et al., 1981; Glasgow & McCaul, 1986; McAlister et al., 1980). There is also evidence that teaching specific "life skills" can be useful in affecting several relevant behaviors (Botvin, 1983). Furthermore, it is postulated "that the same cluster of relatively stable underlying cognitive and personality variables (e.g., low self-esteem, high anxiety levels, poor decision making skills) predisposes adolescents toward the use of alcohol and other drugs and other problem behaviors" (Glasgow & McCaul, 1986, p. 51).

The results of this study, indicate that the "Skills for Adolescence" program accomplished three of its four evaluated goals: increasing the intrapersonal area of self-

confidence, increasing the coping skills of the program participants, enhancing self-esteem, and increasing the occurrence of a greater number of respondents who exhibited an internal locus of control rather than an external locus of control. The decision-making intervention component was the only goal that failed to produce a statistically significant difference between the experimental group and the control group. It is possible that the instruments selected to measure this particular outcome goal may not have been sensitive enough to measure statistically significant differences. However, since current research findings do support the importance of including the decision-making component in drug prevention programs, research regarding the effectiveness of the decision-making skills in preventing substance use should be explored in future studies.

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